PDRT-SANDBOX

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Implementing Projective Discourse Representation Theory

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Projective Discourse Representation Theory (Venhuizen et al., 2013; in prep)

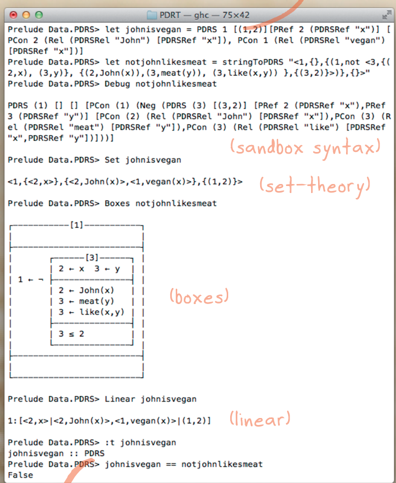
An extension of DRT (Kamp, 1981; Kamp & Reyle, 1993) with projection variables to account for projection phenomena, e.g., presuppositions (Venhuizen et al., 2013) and Potts' (2005) conventional implicatures (Venhuizen et al., 2014).

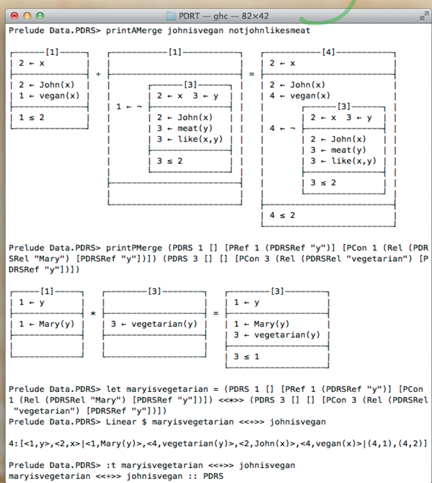
Projection variables indicate the interpretation site of semantic content, so all content stays *in situ* during composition.
> Projected content is indicated by free pointers, or pointers bound to the label of a non-local, accessible PDRS.

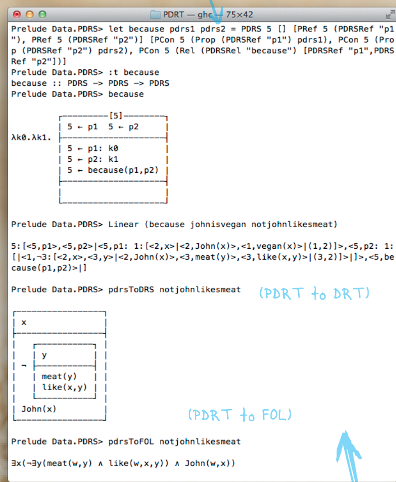
Challenge: projection variables affect the construction procedure and definition of accessibility non-trivially.

PDRT-SANDBOX: a Haskell library that implements PDRT and DRT

A modular and flexible NLP library that incorporates machinery to build, combine, and translate structures from PDRT as well as DRT
. . . and much more!







Implementation

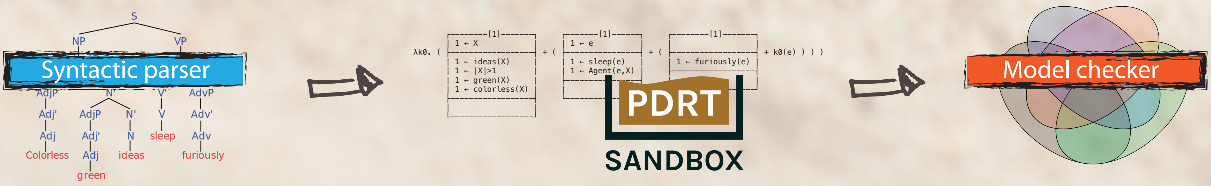
Accessibility of PDRT referents is defined using a projection graph.

Unresolved lambda-(P)DRSs (Muskens, 1996) as Haskell functions.

Various input (set-theoretic, sandbox syntax, Boxer's Prolog syntax; Bos, 2003), and output formats (*pretty printing* of (P)DRS representations, and non-recursive P-Tables).

Application

Forming an NLP toolchain together with a syntactic parser (à la C&C tools and Boxer; Curran et al., 2007), or reasoning about semantic representations using a theorem prover or model checker.



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